

ANNUAL REPORT

OF THE

Medical Officer of Health

(JOHN C. THRESH, M.D., ETC.)

FOR THE

CHELMSFORD

Rural District Council

FOR THE YEAR 1909.

CHELMSFORD:

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CHELMSFORD RURAL DISTRICT.

Report of the Medical Officer of Health For the Year 1909.

SUB-REGISTRATION DISTRICTS.

| | | Estimated Population 1909. |
|---------------|-----|----------------------------|
| Great Waltham | ... | 7,029 |
| Chelmsford | ... | 3,491 |
| Great Baddow | ... | 4,933 |
| Ingatestone | ... | 6,910 |
| | | <hr/> 22,363 <hr/> |

TO THE CHAIRMAN AND MEMBERS OF THE
RURAL DISTRICT COUNCIL.

GENTLEMEN,

I have now pleasure in submitting to you my 21st Annual Report. Upon this occasion the pleasure is enhanced by the fact that it is one of the most favourable, if not the most favourable, yet presented. The death-rate has been unusually low, and the number of cases of infectious disease notified is the smallest hitherto recorded. This satisfactory condition may not be entirely due to the effects of your Administration—the cold summer may be an important factor—but one cannot help thinking that the persistent fall in the death-rate and the diminution in the number of cases of infectious disease notified must be due in a great measure to the improved sanitary condition of the district and to the increased efficiency of the Administration.

POPULATION. It is practically impossible to ascertain the exact population so long after the census year, but I have endeavoured to calculate it from returns which have been kindly furnished to me by the Assistant Overseers. Each of these gentlemen has supplied me with a Table shewing the number of inhabited houses in 1901 (the date of the last census) and the number now occupied. From these returns I find there are more occupied houses in every parish, save in Chignall, Good Easter, Mashbury and Pleshey. The greatest increase has been in the following parishes:—

| | | | | | |
|-------------------|-----|----|-----------------|-----|----|
| Buttsbury | ... | 31 | Broomfield | ... | 52 |
| Ingatestone | ... | 40 | Danbury | ... | 24 |
| Margaretting | ... | 22 | Great Baddow... | | 59 |
| Woodham Ferris... | | 38 | Sandon | ... | 20 |

The increases in the Sub-Registration Districts are as under:—

| | | | | |
|---------------|-----|-----|-----|-----|
| Ingatestone | ... | ... | ... | 164 |
| Chelmsford | ... | ... | ... | 7 |
| Great Waltham | ... | ... | ... | 77 |
| Great Baddow | ... | ... | ... | 130 |
| Total | ... | ... | ... | 378 |

indicating an increase in population of about 1,700.

This is more than I had anticipated, but there can be little doubt about it being correct.

The population for the whole district and for the various sub-registration areas is given in the Table at the head of this report, and the birth-rates, death-rates, etc., have been calculated therefrom.

BIRTH-RATE. The number of births registered as having occurred in the district is 471, and is the smallest number hitherto recorded. The birth-rate per 1,000 population is only 21.6, which is 1.3 below the average for the last ten years. This continued fall is a matter for serious consideration, more especially as there is reason to believe that the decrease is

most marked among the intelligent classes, and that amongst the least intelligent classes, the weak-minded and unemployable, there is no diminution. Unfortunately, the statistics at my disposal do not enable me to say whether it is correct, but taking the country as a whole; it is undoubtedly true, and is therefore probably true for this district. This signifies a continuous deterioration of the race, as the average intelligence of the community must fall with this preponderating increase of the very lowest classes. The birth-rates in the Sub-Registration Districts varies very little, but was highest in the Ingatestone district and lowest in Great Baddow :—

| | | | |
|---------------|-----|-----|------|
| Great Waltham | ... | ... | 21·3 |
| Chelmsford | ... | ... | 21·2 |
| Great Baddow | ... | ... | 19·5 |
| Ingatestone | ... | ... | 21·9 |

INFANTILE MORTALITY. The mortality amongst children under one year of age was very low—six below the average—but on several occasions a lower rate has been recorded. Per 1,000 births, 74 children have died before reaching the age of one year, and Table V. in the Appendix gives the causes of death. More than half died before attaining the age of one month, and were undoubtedly debilitated from birth. There is little doubt that, speaking generally, these would be children of the poorest and least intelligent parents—parents whose physical and mental conditions prejudicially affect their offspring. After attaining the age of one month only two died from wasting disease, proving that the antenatal conditions were the chief factors in the earlier mortality.

DEATH-RATE. During the year 226 deaths were registered in the district, but two of these occurred in the Billericay Hospital, and did not belong to the district. On the other hand, 41 deaths occurred in the Chelmsford Workhouse amongst inmates who belonged to the district: therefore the nett deaths numbered 265, giving a death-rate of 11·85 per

1,000 population. This is 1.45 below the average for the previous 10 years, and only once, in 1906, has a lower rate been recorded.

The death-rates in the sub-districts were as under :—

| | | Average 1899-1908. |
|---------------|----------|--------------------|
| Great Waltham | ... 10.8 | 14.2 |
| Chelmsford | ... 11.2 | 14.5 |
| Great Baddow | ... 13.4 | 13.1 |
| Ingatestone | ... 12.2 | 12.3 |

The variations are not great, and little stress can be laid upon the returns for a single year. Taking the 10 previous years, Ingatestone District has the lowest death-rate and Great Waltham and Chelmsford the highest, but these differences may be in some measure due to errors in the estimation of the population in recent years.

The difference between the birth-rate (average 22.9) and the death-rate (average 13.3) is 9.6 per 1,000 population, and the natural increase would be about 227 persons per year, or in the eight years since the census, 1816. The increase calculated from the additional occupied houses is about 1,700, which appears to indicate that nearly as many people have come to reside in the district as have moved out. This is probably the case, as in several parishes the laying out of building estates has resulted in an influx from London and elsewhere.

DEATHS FROM INFECTIOUS DISEASES. The only deaths from the ordinary infectious diseases are two from Whooping Cough and one from Diphtheria. Scarlet Fever, Measles, Typhoid Fever, and Puerperal Fever have not caused a single death. This is certainly a remarkable record. Still more remarkable is the fact that only one infant has died from diarrhoeal disease. Influenza caused nine deaths, or more than twice the number due to all the ordinary infectious diseases.

DEATHS FROM PHTHISIS AND OTHER TUBERCULAR DISEASES. Consumption claimed 21 victims and other tubercular diseases five. This is one of the principal causes of death, and the most important, since it is preventible. It is

therefore worth considering whether anything more can be done than is already done towards preventing the spread of this disease. Before we can decide upon the most efficient mode of procedure it is necessary that we should have an accurate knowledge of the factors which cause its spread and of their relative importance. These are :—

- (1) Hereditary predisposition.
- (2) Infection from sputa, or from other excretal matters
- (3) Overcrowding and insanitary conditions.
- (4) The use of milk from tuberculous cows.
- (5) The use of flesh of tuberculous animals.

Unfortunately the most recent statistical enquiries strongly indicate that hereditary predisposition is by far the most important factor. The next in order of importance is infection from person to person, through sputa, dissipation of particles by coughing, or of dust from the dried sputum. The part played by flesh and milk may in the aggregate be large, but in comparison with the other factors it is small. Overcrowding, etc., probably never cause phthisis in the absence of the factors 1, 2, 4 and 5; but in the presence of any of these, insanitary conditions aid greatly in the spread of infection.

To arrest the ravages of the disease, therefore, it is most important that consumptives should not marry. If marriage could be prevented the next generation would contain few members with the consumptive tendency, and the death-rate from the disease would drop suddenly and most markedly. As a Sanitary Authority, this is beyond your control, and all I can do as your Medical Officer is to make the fact of the importance of this hereditary tendency as widely known as possible, in the hope that it may affect the conduct of some members of the community by dissuading them from marriage if consumptive, or from marrying into a family with a consumptive taint. In connection with this subject the brief account of the families of certain consumptives, contained in the Section dealing with diseases notified, will be read with interest.

The next factor of importance is that of personal infection. The spread of the disease could be arrested if every consumptive person could be thoroughly isolated, but this is impossible. A consumptive can, however, be taught how to dispose of his sputum and how to comport himself so as to reduce very greatly the risk of infecting others. This can best be done by residence for a period in a Sanatorium. When thus educated isolation may be dispensed with, but it is very advisable in the advanced stage, when the coughing is troublesome and the amount of sputum raised excessive. Most unfortunately, there is no public institution in the county for the reception either of early or advanced cases, though there are several private sanatoria for persons in whom the disease is not far advanced. The Guardians have provided a few shelters at the Workhouse, which are being used with advantage, but obviously the treatment of two or three cases out of the 60 or 70 who reside in the district cannot have any very immediate effect. I have made several efforts to interest you and other Authorities, including the County Council, in this subject of the provision of a Public Sanatorium, but so far without effect. Naturally, personal infection is much more likely to take place in cottages, especially if over-crowded, and by preventing such over-crowding some benefits must accrue. In several parishes there is a difficulty in obtaining adequate cottage accommodation, hence I have occasionally to report cases where the infection of Phthisis is being spread in families with hereditary predisposition to the disease because they cannot obtain increased accommodation.

Milk and Meat Inspection probably do not receive so much attention as they deserve, but the action of the London County Council in sending their Veterinary Inspector to examine the cows in dairies which have supplied tuberculous milk to London is proving most salutary. The appointment of a Veterinary Inspector for this district did not, however, commend itself to the majority of the Council. (*Vide* page 29).

The average number of deaths from Phthisis in this district during the last 10 years has been 21, but as 21 have occurred this year in a population diminished by the excision of Springfield, the death-rate has been above the average.

CANCER. This disease has caused 23 deaths, which was the average for the larger district during the previous 10 years. There is no decided evidence of increase or decrease of recent years, and unfortunately at the present time its origin is unknown, hence no suggestions can be made for reducing the mortality.

DEATHS AT DIFFERENT AGES. Two of the people who died during the year had reached the ages of 95 and 97 respectively, and 48 persons exceeded 80 years. Over half the number of deaths was of persons over 65 years of age.

The average age at death was 55 years, but if the deaths of infants under one year is excluded the average is 63 for the remainder.

| | | | |
|---------------------|-----|-----|-------|
| Deaths under 1 year | ... | ... | 35 |
| „ 1 and under 5 | ... | ... | 7 |
| „ 5 „ 15 | ... | ... | 6 |
| „ 15 „ 25 | ... | ... | 7 |
| „ 25 „ 65 | ... | ... | 68 |
| „ Over 65 | ... | ... | 142 |
| | | | <hr/> |
| Total | ... | ... | 265 |
| | | | <hr/> |

PREVALENCE OF INFECTIOUS DISEASES.

The number of cases of Infectious Disease notified under the Infectious Diseases Notification Act was only 47, or 9 less than last year. This is the smallest number hitherto recorded. Of the 47, 36 were Scarlet Fever, 7 Diphtheria, 1 Puerperal Fever, and 3 Erysipelas. There has been no epidemic prevalence of any disease, nor any outbreak due to the use of infected food or drink.

Table VI. gives the number of cases of each disease notified each year since 1899. It will be seen that the prevalence of Scarlet Fever varies greatly from year to year, and does not shew any decrease when five year periods are considered. On the other hand, Diphtheria and Typhoid Fever shew a marked decrease.

Average No. of cases notified :—

| | 5 Years 1900-4. | 5 Years 1905-9. |
|--------------------------|-----------------|-----------------|
| Scarlet Fever | ... 59 | 64 |
| Diphtheria | ... 102 | 17 |
| Typhoid & other Fever... | 11 | 4 |

Considering the very heavy expenditure incurred in isolating cases of Scarlet Fever at the Joint Hospital, it is very discouraging to find that such isolation has so little effect. Last year 27 out of the 36 notifiable cases were removed to the Hospital, but such removal and subsequent home disinfection did not prevent other cases occurring.

I have been greatly interested in the results obtained by Dr. Milne at the Barnardo's Home, Ilford, and I visited the Homes recently to see some cases of Scarlet Fever under treatment. When cases occur Dr. Milne makes no attempt to isolate them—they are placed with other child patients in the Cottage Hospital. The throat and skin are treated with suitable disinfectants, and in a week or two the children are allowed to go out and mix with others. The result is extremely satisfactory: there is no spread of infection either in the hospital or elsewhere. The same method of treatment has

been tried by many private practitioners, and so far as I can learn with uniformly satisfactory results. Certain experiences of my own lead me to believe that most cases could be so treated, and hospital isolation thus becomes unnecessary.

This is a very important matter, and the system of treatment should be tried on a large scale and under the supervision of physicians, whose conclusions would be accepted by all. Assuming that the results were satisfactory, our Scarlet Fever wards could be adapted for the use of Consumptive patients, and the money now apparently wasted in combating Scarlet Fever be utilised with great advantage. I do not wish it to be understood that such hospital treatment would be for the cure of Phthisis: it would merely be educational, but of the greatest value to the patient subsequently and a great safeguard to those with whom they would afterwards come in contact.

The decreased prevalence of Diphtheria I do not regard as being in any way due to hospital isolation, but it is very convenient to have such a hospital to receive cases from houses in which they cannot be properly treated. The causes of the decrease are really unknown. The general experience in Essex is that it is very prevalent in a certain district for a number of years, and that it finally practically disappears, sometimes abruptly, at others gradually. On the other hand, the more modern system of treatment by Antitoxin, and the early diagnosis by aid of bacteriological methods, must have some effect, but I think the most important factor is the discovery of "carrier" cases. These "carriers" are persons who harbour the diphtheria bacilli in their throats, yet do not appear to be at all affected, or are so slightly affected that their condition would never be suspected were not bacteriological examinations made. These "carrier" cases are not limited to Diphtheria, but it seems probable that they are the chief cause of the spread of Scarlet Fever and even of Typhoid Fever. It is to the detection of "carriers" and "missed" cases that our attention is now chiefly directed, and I am convinced that this is the most effectual method of eradicating infection.

The parishes in which the notified cases occurred are given in the following Table. When a parish is not mentioned, naturally no case has been reported therefrom :—

| Parish. | | Diphtheria. | | Scarlet | Puerperal | | Erysipelas. | | Total. | |
|-------------------|-----|-------------|-----|---------|-----------|-----|-------------|-----|--------|----|
| | | | | Fever. | Fever. | | | | | |
| Runwell | ... | 1 | ... | — | ... | — | ... | — | ... | 1 |
| Ingatestone | and | | | | | | | | | |
| Fryerning | ... | — | ... | 6 | ... | — | ... | — | ... | 6 |
| Woodham Ferris.. | — | ... | 1 | ... | — | ... | — | ... | 1 | |
| Writtle | ... | — | ... | 1 | ... | — | ... | 2 | ... | 3 |
| Highwood | ... | — | ... | 2 | ... | — | ... | — | ... | 2 |
| Great Waltham... | — | ... | 3 | ... | — | ... | 1 | ... | 4 | |
| Little Waltham... | — | ... | 1 | ... | — | ... | — | ... | 1 | |
| Broomfield | ... | — | ... | 5 | ... | — | ... | — | ... | 5 |
| Chignal | ... | 1 | ... | — | ... | — | ... | — | ... | 1 |
| Boreham | ... | 1 | ... | — | ... | — | ... | — | ... | 1 |
| Danbury | ... | 3 | ... | 1 | ... | 1 | ... | — | ... | 5 |
| Sandon | ... | 1 | ... | 6 | ... | — | ... | — | ... | 7 |
| Great Baddow | ... | — | ... | 10 | ... | — | ... | — | ... | 10 |
| | | — | ... | — | ... | — | ... | — | ... | — |
| Totals | ... | 7 | ... | 36 | ... | 1 | ... | 3 | ... | 47 |
| Number removed | | | | | | | | | | |
| to Hospital | ... | 3 | ... | 27 | ... | 0 | ... | 0 | ... | 30 |
| Number not re- | | | | | | | | | | |
| moved | ... | 4 | ... | 9 | ... | 1 | ... | 3 | ... | 17 |

After each case of Scarlet or other fever or Diphtheria has been removed or has recovered the house is disinfected with sulphur or formaline spray, and the bedding, etc., is usually sent to the Hospital for disinfection.

The Hospital belongs to the Borough and Rural District, and is managed by the Joint Hospital Board. So far as this district is concerned, it meets all requirements. On one or two occasions a Scarlet Fever patient has had to wait a day or two before accommodation could be provided, but this caused no inconvenience.

With reference to its management, I had to point out to the County Council, when reporting upon it for a grant, that it was far more heavily staffed than any other hospital in proportion to its size in the County, and that the annual cost, however considered, was nearly twice as great, in proportion to its size, as any other hospital. The figures were supplied to the Hospital Committee, and no doubt will have received their most careful attention.

TUBERCULOSIS. This disease is now notifiable, providing the patient is a "poor person"—or in other words, is being officially attended by a Poor Law Medical Officer. Some years ago circulars were sent round to all Medical Practitioners asking them to notify cases of Phthisis, but no notifications were ever received. Cards and pamphlets were obtained, and these have been, and are, distributed whenever thought desirable.

During the year 12 cases have been notified in 11 families. Three of these have since died. We thus have four cases to one death, and if the same proportion occurs amongst unnotified cases we must have 84 persons in the district suffering from Consumption in its various stages. As there are no doubt others in whom the symptoms are not sufficiently developed for definite recognition, or who have not submitted themselves to medical examination, there is little doubt that 84 will be an under-estimate, and probably 100 will be near the truth.

The patients notified may be classified as under :—

| | | Age 5-10 | 10-20 | 21-30 | 31-40 | 41-50 | Over 50 | Total. |
|---------|-----|----------|-------|-------|-------|-------|---------|--------|
| Males | ... | 0 | 0 | 0 | 3 | 0 | 2 | 5 |
| Females | ... | 1 | 2 | 1 | 3 | 0 | 0 | 7 |

The following histories are interesting :—

1. Child in Workhouse. No reliable history obtainable.
2. Adult. Sister on father's side and a sister on mother's side died of the disease. A daughter also has died from Phthisis.

3. Adult. Mother and two brothers died from Phthisis.
4. Wife nursing husband.
5. " " "
6. Adult. No family history, but shortly before attacked removed to a house in which had resided a person in an advanced stage of Phthisis.
7. Girl. Father died of Phthisis four years ago. His mother, one brother and one sister died from same disease.
8. Adult. No history of inherited tendency.
9. " " " "
10. " Grandmother died of Consumption.
11. " Patient's sister and patient's son died of Phthisis
12. Child. A brother died from the disease early in the year.
No other family history.

Several of these patients have been in Institutions for short periods; all have been instructed in method of disposing of sputum.

After death or removal an offer to disinfect the house is made in every case, and this offer has always been accepted. This applies to non-notified as well as notified cases. For this disinfection I prefer to use formaline spray, followed by sulphur fumigation. We have two medical men in the district who take paying cases for treatment in shelters, and at the Workhouse there are four such shelters—two for males and two for females. These are always occupied, but of course they are not under the control of the Rural District Council.

OTHER INFECTIOUS DISEASES. The district has been singularly free from these, but cases of Measles, Chicken Pox, and Whooping Cough have been notified from various Schools. Only one School has been closed by order of the Council during the year, and this was on account of the prevalence of Measles. All suspected infectious diseases coming to the knowledge of the teachers in the Public Elementary Schools are notified to me, and in every case the district is visited, to verify the

diagnosis if a medical man is not attending, and to ascertain if there are any unrecognised cases. The list of absentees and recent absentees is always scrutinized, and children who have recently been absent are examined. During one such examination two children were found "peeling," having had an attack of Scarlet Fever, so mild in character that the parents had never suspected it.

SANITARY CIRCUMSTANCES OF THE DISTRICT.

With reference to the general character of the District and the population, there is no change to record, save that, as previously indicated, there is a tendency for the population to increase. Now that Springfield has been included in the Borough of Chelmsford, builders appear to be directing their attention to Broomfield, and building is proceeding there just beyond the Borough boundaries. This will necessitate certain improvements, which will be referred to under the headings of "Sewerage" and "Water Supply."

HOUSING ACCOMMODATION. The large number of houses erected during recent years has, in most districts, fully met all requirements, but cottages with three bedrooms are wanted in many parishes. A complaint was received during the year from the Parish Council of Little Waltham, alleging that there was a deficiency of cottages, and asking the Rural District Council to put in force the Housing of the Working Classes Act and provide some. On May 18th I presented the following Report:—

At the meeting of your Council, held on April 20th, a letter was read from the Little Waltham Parish Council requesting you to exercise your powers under the Housing of the Working Classes Act, and provide a number of cottages. I was then requested to make enquiries, and report the results at the present meeting.

Little Waltham is a parish of 2,310 acres, and which had in 1891 154 inhabited houses and a population of 661. At the census of 1901 there were 151 houses occupied by

151 families, with a population of 646. In other words, during the 10 years there had been a decrease of 15 inhabitants and 3 houses. The average number of persons per house remains the same, viz., 4·3.

The conditions which exist now, therefore, are practically the same as those which obtained 20 years ago, and the number of persons per house does not indicate that there is any overcrowding.

Mr. Campen, the Assistant Overseer, has kindly supplied me with certain detailed information, which shows that there are 26 farms in the parish varying from 7 to 285 acres in extent, and embracing 1,835 acres out of the 2,310 total. Twelve of these farms have no cottages attached, and in several others the only cottage or cottages is the farm house, which has been made into 1 or 2 cottages. The total number of cottages attached to the 26 farms, or rather to the 14 farms which have cottages, is 27. It is obvious that if all the farms were adequately supplied with cottages, there would be many more. There are, however, 87 other cottages in the parish not attached to farms. This makes 114 cottages, but Mr. Edser says he can only find 102. I think the difference is due to the fact that in my 114 I include the four houses which have been divided up, and which are now used by the labourers.

Enquiries have been made in the parish, and the opinion is very generally expressed that there is no lack of cottages. Rents are very low, and the labourers say that if cottages were erected they could not afford the rent which would have to be charged. A considerable number of cottages in the village are let at £5, and even £4 a year.

The last census return gave 7 cottages which were unoccupied. These I am unable to trace. There is no unoccupied cottage in the village.

Enquiries, therefore, did not confirm the allegation of the Parish Council that more cottages were required.

The investigation was, however, carried further, and a census taken of the village. I had heard of a gross case of overcrowding, but my informant would not give me name or address. No serious case of overcrowding was discovered, but there could be no doubt that a few more houses with 3 bedrooms were wanted.

Of the 52 cottages examined, 3 have only 1 bedroom, and 3 only have 3 bedrooms; the remainder, 46, have 2 bedrooms each. It is obvious that although there is little legal overcrowding, there is in many cases a comingling of the sexes of a very objectionable character.

In the interest of morality, some larger cottages are desirable. The present condition undoubtedly drives all the brighter young adults out of the parish, and we cannot possibly expect otherwise until there is a greater local demand for labour and better houses are provided. This, however, raises the greater question which I discussed at the recent Conference in Chelmsford, and which we cannot conveniently discuss here. The village is entirely dependent upon agriculture; there are no works of any kind in or near it. If employment were found there would probably be no difficulty in providing cottages, and until such is found very little improvement is likely to be effected.

The new Town Planning Bill, if it became law, will simplify the procedure for providing cottages, but until its fate is known, it would be unwise on your part to make any attempt to provide houses.

The fact that cottages erected by Sanitary Authorities cost much more than those erected by private persons should also be considered by the Parish Council. Why this should be the case I cannot explain, but I do not think that there is anything so exceptional in your circumstances that you would be able to succeed where others have failed.

In conclusion, I express my sympathy with those members of the Parish Council who would like to see some better cottages in the parish, and I regret that I am at present unable to report that it is necessary to put in force the Housing of the Working Classes Act. They may be in possession of information which I have failed to obtain.

If further information is afforded me, I will give the subject renewed attention.

No further communication appears to have been received from the Parish Council, but at a later date further investigation revealed two rather gross cases of over-crowding just over the border of the parish, at Chatham Green. In one case a person suffering from Phthisis was living with a family in a 3-roomed cottage, and a fatal case had only recently occurred in the same family. The parents refused to allow the girl to be removed, and legal proceedings are now pending. There are two unoccupied cottages near, but each has only one bedroom. It is suggested that these be thrown into one house.

In a report relating to Woodham Ferris, where there is a want of cottages in the village, I gave a list of farms with acreage and number of cottages attached thereto.

Ten farms belonging to one owner have a total area of 950 acres, and there is not a single cottage provided for the labourers. Two other farms of 343 acres have no cottage, whilst 22 cottages are provided for six farms of 1,100 acres. So long as no legal power exists to compel landowners to provide their quota of cottages, so long will Housing Acts prove ineffective. Naturally, parishes object to being rated to provide cottages for the benefit of landlords. I cannot help thinking that this is mistaken policy on the part of the landowners, and that it is as much against their own interests as it is against that of the community. The lack of decent cottages drives all the best blood out of the villages, and leads to farmers preferring to employ unmarried men or men with small families. The folly of this action must be evident to anyone

who has studied the subject, and to those who have not I commend the following passage from Whelham on "The Family and the Nation," as good horsemen and agricultural labourers deserve more consideration than grooms and gardeners:—

"The present habit of advertising for coachmen, gardeners and gamekeepers 'without encumbrance' should meet with the universal reprobation it deserves. Such announcements ought not to be allowed to disfigure the columns of otherwise respectable newspapers. These men, usually of good stock, with regular, well paid work, should be a steady source of valuable addition to the population, and pride should be taken in providing for their occupation cottages with accommodation suitable for a large family. In fact, those responsible for the management of estates might make sure, as a general policy, that the limited number and inadequate size of cottages cannot be made the excuse by satisfactory parents for the limited production of children. Country landowners have many and great responsibilities, which for the most part they have met well. When they come to realise the importance to the nation at large, and even to their own neighbourhood, of a constant supply of healthy children of good stock, they will find there are many ways besides example in which they can exert an influence for good."

The Housing, Town Planning, etc., Act, 1909, has given increased powers to Sanitary Authorities, and if landowners do not provide sufficient cottage accommodation such Authorities will have to exercise these powers. Under this Act, the closing and demolition of insanitary cottages no longer requires the sanction of local magistrates, and the procedure for the provision of cottages by Sanitary Authorities has been simplified.

There are many old cottages existing in the district which one would like to see closed, and such closure will now be a simple matter, but doubtless the objection, that there are no better cottages available, will still have a great weight and

prevent closure being enforced. In such cases, however, it is obviously the duty of the Authority to proceed to provide the cottages required if private enterprise fails to meet the demand.

A Magistrate's order was obtained for closing a cottage at Buttsbury, which was unfit for habitation.

It is to be regretted that tents and sheds do not come under the new Act. A family may be turned out of an old cottage and go into a tent, and thus accentuate difficulties which have already arisen in connection with these tent dwellers.

During the year the Model Bye-laws relating to Tents, Vans and Sheds have been adopted.

Mr. Dewhirst informs me that the following Plans were approved under the Bye-laws relating to New Streets and Buildings during the year :—

| Parish. | New dwelling houses. | Other buildings. | Additions to dwelling houses. | Additions to other buildings. | New streets. |
|----------------------|----------------------------|---------------------|-------------------------------------|-------------------------------------|-----------------|
| Great Baddow | ... 18 | ... 1 | ... 2 | ... — | ... — |
| Little Baddow | ... 1 | ... 1 | ... — | ... — | ... — |
| Boreham... | ... — | ... — | ... — | ... — | ... — |
| Broomfield | ... 14 | ... 2 | ... 3 | ... — | ... — |
| Buttsbury | ... 1 | ... — | ... — | ... — | ... — |
| Chignal ... | ... — | ... — | ... — | ... — | ... — |
| Danbury... | ... 3 | ... 2 | ... 3 | ... — | ... — |
| Good Easter | ... — | ... — | ... — | ... — | ... — |
| East Hanningfield... | ... — | ... 1 | ... 1 | ... — | ... — |
| South „ | ... — | ... 1 | ... — | ... — | ... — |
| West „ | ... 1 | ... — | ... 2 | ... — | ... — |
| Ingatestone | ... 7 | ... 5 | ... 6 | ... — | ... — |
| Great Leighs | ... 4 | ... 3 | ... — | ... — | ... — |
| Little „ | ... — | ... — | ... — | ... — | ... — |
| Margaretting | ... — | ... 3 | ... — | ... 1 | ... — |
| Pleshey ... | ... — | ... — | ... — | ... — | ... — |
| Rettendon | ... — | ... — | ... — | ... — | ... — |
| Roxwell ... | ... 2 | ... — | ... 1 | ... — | ... — |

| Parish. | New dwelling houses. | Other buildings. | Additions to dwelling houses. | Additions to other buildings. | New streets. |
|----------------|----------------------------|---------------------|-------------------------------------|-------------------------------------|-----------------|
| Runwell ... | 12 | — | — | — | 4 |
| Sandon ... | 1 | 1 | 2 | — | — |
| Springfield | 1 | 1 | 1 | — | — |
| Stock ... | 1 | 2 | — | — | — |
| Great Waltham | 2 | — | 3 | — | — |
| Little „ | 1 | 1 | — | — | — |
| Woodham Ferris | 6 | 6 | — | — | — |
| Widford ... | 2 | — | — | — | — |
| Writtle ... | 1 | 1 | — | — | — |
| | — | — | — | — | — |
| Totals ... | 78 | 31 | 24 | 1 | 4 |
| | — | — | — | — | — |

WATER SUPPLY. Most of the district is adequately supplied with water. The villages worst supplied are Broomfield, Stock and West Hanningfield. The difficulties in the two latter places are at present insurmountable, but in the former a deep well scheme for a public supply is being formulated. A deep well has been sunk at the Hall, and some details which will be of value are here recorded. The well-sinker, Mr. Jennings, has kindly furnished me with the following section of this well, etc.:—

Ground level 140ft. above O.D.

SECTION.

| | |
|----------------------|---------|
| Stoney clay soil ... | 25 feet |
| Blue clay ... | 183 „ |
| Hard rocky strata | 17 „ |
| Sand with water... | 5 „ |
| | — |
| Total depth ... | 230 „ |
| | — |

The bore is only 4in. in diameter, and the pump is placed at a depth of 100 feet. The natural water level was found to be 70ft. from the ground surface, or 70ft. above O.D. Two

hand pumps were used to test the yield, and it was found impossible to exhaust the water. The supply, therefore, is evidently satisfactory.

The water obtained was turbid, from the presence of very fine sand.

Upon analysis it yielded results as under, shewing that it has all the characteristics of the pure, soft waters from the Thanet sands and chalk of Central Essex :—

| | | Parts per 100,000. | Grains per Gallon. |
|-------------------------|-----|-----------------------|-----------------------|
| Calcium carbonate | ... | 2·4 | 1·7 |
| Magnesium carbonate | . | 1·2 | ·85 |
| Sodium carbonate | ... | 40·2 | 28·1 |
| Sodium sulphate | ... | 12·0 | 8·4 |
| Sodium chloride | ... | 32·35 | 22·65 |
| Silica suspended matter | ... | 1·85 | 1·3 |
| | | — | — |
| | | 90·0 | 63·0 |
| | | — | — |
| Hardness | ... | 6° | 4° |
| Free ammonia | ... | 0·08 | 0·056 |
| Organic ammonia | ... | 0·002 | 0·0014 |
| Oxygen absorbed | ... | 0·068 | 0·048 |
| Nitrites and nitrates | ... | 0·0 | 0·0 |

JOHN C. THRESH, D.Sc., F.I.C., etc.

Public Health Laboratories,
Chelmsford, May 1st, 1909.

A suitable site for boring a well has been selected at Broomfield, and negotiations for its purchase are proceeding. The houses recently erected depend upon shallow wells, and as these yield an impure water certificates have been withheld, though the houses have been occupied.

The public supplies with mains ramifying through the villages have been maintained in perfect order. They include the following :—

| | | |
|---------------------------|-----|---|
| Baddow Waterworks | ... | Supplying Great Baddow and a portion of Sandon in the R.D. and Springfield in the Borough of Chelmsford. Water derived from a deep well and gravel springs. |
| Danbury Waterworks | ... | Supplying the following parishes:— Danbury, Little Baddow, Sandon, East Hanningfield, Rettendon, Runwell and Woodham Ferris. Source of water, springs on Danbury Common. |
| Ingatestone Waterworks | ... | A deep well supply for Ingatestone and Fryerning. |
| Writtle Waterworks | ... | A deep well supplying Writtle special drainage area. |
| Great Waltham Waterworks | | Spring water, raised by a ram, supplies the village. |
| Little Waltham Waterworks | | A spring water piped through the village. |

With reference to the above works, the Engineer, Mr. Dewbirst, has kindly provided me with the following particulars and a chart shewing the amount of water consumed weekly from each works:—

WATER SUPPLY, 1909.

Consumption in each of the four principal Districts of Supply.

| | | | |
|-----------------------------------|-----|------------|---------|
| Great Baddow Waterworks | ... | 29,808,000 | gallons |
| Danbury | ... | 11,859,400 | „ |
| Ingatestone | ... | 7,984,200 | „ |
| Writtle Special Drainage District | | 4,151,400 | „ |

| | | | |
|-----------|-----|------------|---|
| Total ... | ... | 53,803,000 | „ |
|-----------|-----|------------|---|

No records are kept of the consumption in Great and Little Waltham and other small sources of supply.

NEW CONSUMERS.

Domestic.

| | | | |
|----------------------------|-----|-----|----|
| Great Baddow | ... | ... | 14 |
| Danbury and other Parishes | ... | ... | 12 |
| Ingatestone | ... | ... | 11 |
| Writtle | ... | ... | 3 |

Trade.

| | | | |
|----------------------------|-----|-----|----|
| Danbury and other Parishes | ... | ... | 2 |
| Total | ... | ... | 42 |

The number of new consumers in the Springfield Ward of the Borough of Chelmsford is not known.

The Chart accompanying shows the consumption week by week in each district.

The Water Mains have been extended as follows:—

| | | |
|----------------|-----|-----------------|
| Great Baddow | ... | 120 Yards of 3" |
| Danbury | ... | 382 „ 3" |
| Woodham Ferris | ... | 2266 „ 3" |
| Ingatestone | ... | 333 „ 3" |
| Writtle | ... | 83 „ 3" |
| Total | ... | 3184 „ 3" |

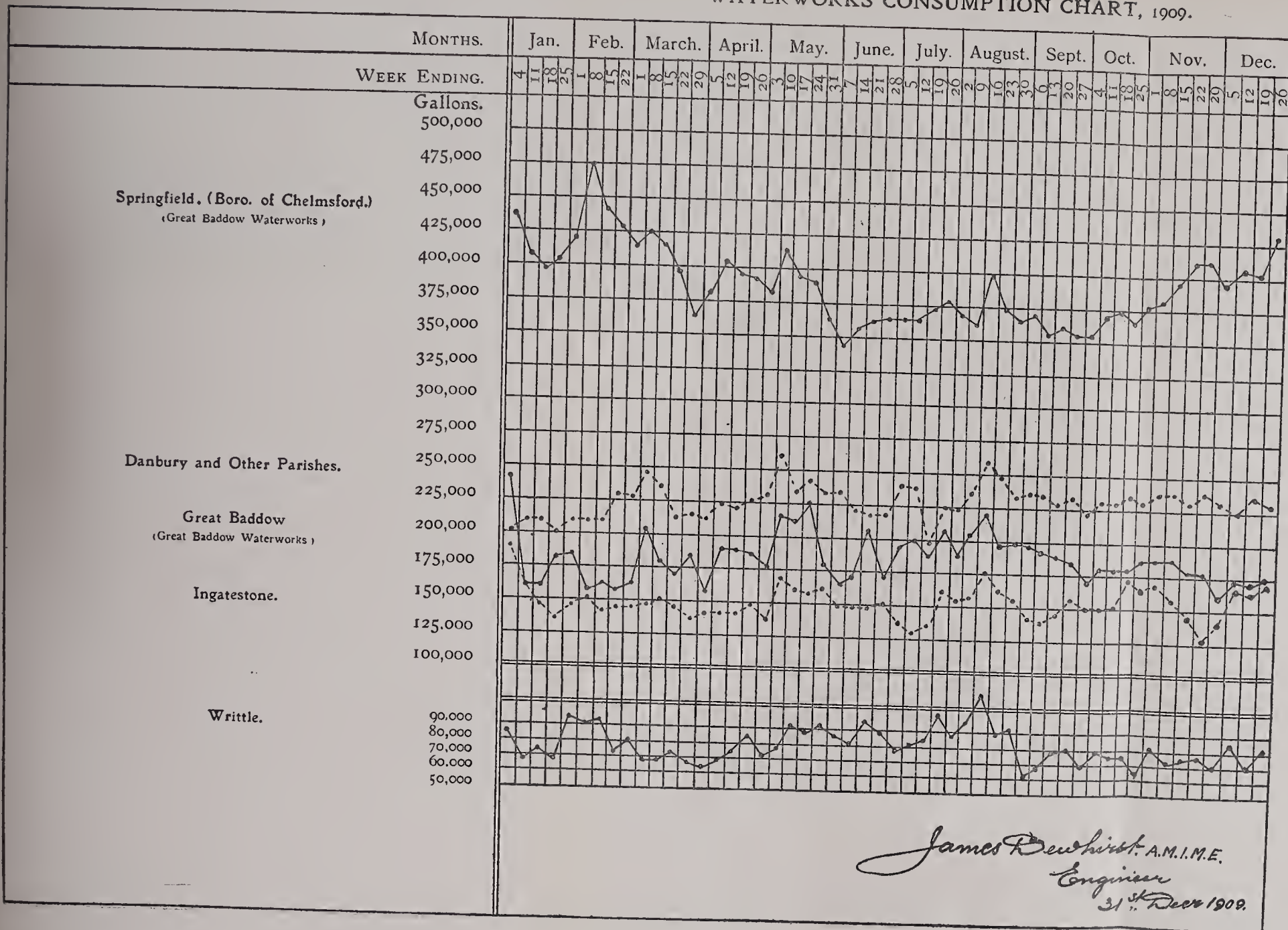
The extension at Woodham Ferris cost £395, towards which the land owner chiefly benefitted contributed £80. A further extension at Ingatestone is under consideration, but is subject to a substantial portion of the expenso being borne by the persons benefitted.

In addition to the above, under an agreement with the Southend-on-Sea Water Company, 300 yards of 3" water mains have been laid by that Company in the parish of Runwell.

The Great Waltham Water Tower tank has been cleaned, repaired and painted both inside and outside without interrupting the supply of water to the consumers.

CHELMSFORD RURAL DISTRICT COUNCIL.

WATERWORKS CONSUMPTION CHART, 1909.



At Boreham the ditch adjoining the public pump has been piped for a distance of 100 feet, to avoid pollution by surface water.

At West Hanningfield a new pump of the anti-freezing type has been fixed at the "Leather Bottle" Well.

At Margaretting a similar pump has been fixed at the well near the School.

At Stock the "Coronation Well" has been taken over by the Council, and 45 feet of 6" cast iron pipes laid in the adjoining ditch, to avoid pollution by surface water.

The water from each of the public sources of supply has been submitted to analysis. The more important sources have been repeatedly examined, and on one occasion both chemically and bacteriologically. They have been found of uniformly good quality. Besides the above, 33 samples have been examined from private houses, dairy farms, etc.

There are several dairy farms with very unsatisfactory water supplies. The difficulty in enforcing the provision of a better supply lies in the fact that the Authority can only take action against the occupier, who is almost invariably a tenant. More attention requires to be given to the subject, and whenever it is possible to obtain a satisfactory supply it should be insisted upon, and if such a supply cannot be obtained the farm should not be used for dairy purposes.

The question of "cooling" milk by means of a flow of polluted water has frequently been considered. From my examination of these cooling appliances I am of opinion that such water should not be used; in fact, no water should be used in the dairy unless it is of good quality, as the risk of contaminating the milk are very considerable.

The Southend Water Company are promoting a Bill in Parliament, and seek for powers to sink a deep well in Buttsbury parish, and to provide a portion of the parish with water. If the Company had undertaken to supply the village of Stock, which is partly in Buttsbury parish, the suggestion might have been entertained, but as Stock, if supplied, will have to obtain

its supply from the locality selected by the Water Company, it has been decided to oppose the Bill unless the clause referred to is withdrawn.

SEWERAGE AND DRAINAGE. Great Baddow and Widford are sewered and connected with the Borough system, the sewage being disposed of upon a farm in the Rural District.

Ingatestone is sewered, and the sewage is treated on a large field near the river. This field requires frequent ploughing, but it receives such attention that no impure effluent ever enters the river. In dry weather the land practically absorbs the whole of the sewage, and the ditches are dry.

Writtle is also sewered and the sewage treated, first on bacteria beds and then on land. Here again the land in dry seasons absorbs everything, but during the wet season the land gets waterlogged, and were it not for the bacteria beds some impure effluent would escape.

At Great Waltham the village sewers discharge upon small gravel filters, and the filtrate enters a brook which is a tributary of the River Cann. This simple arrangement seems effectual, as the stream shows no trace of pollution.

At Little Waltham the sewers discharge into ditches, and from time to time a nuisance arises. No scheme for dealing with the sewage at a reasonable cost has yet been devised. The pail closets in this village are emptied weekly by a paid scavenger.

At Woodham Ferris the Parish Council has effected an improvement at the outfall ditch, but the continued wet season has kept the ditch so clean that it is impossible to say whether the result will be satisfactory.

In February I presented a report on the sewerage of this village, recommending a modification of the scheme suggested by the Engineer, which I thought would meet the exigencies of the case and considerably reduce the expense. At the same Council meeting a letter was read from the Parish Council suggesting an attempt to improve the existing condition by piping some of the sewage lower down the ditch. In March

the Parish Council intimated that they wished to carry out this improvement, and the Rural District Council caused it to be placed on their Minutes, that "if this were done, this Council could take no responsibility, and that it must not be considered that they acquiesced in the scheme, or expressed any opinion as to its effectiveness." The Engineer was directed to delay the preparation of his scheme. Beyond cleaning out the ditch, nothing has been done.

At Margaretting the sewer outfall has been extended to prevent a nuisance which periodically occurred where a small brook passes under a road.

Broomfield. A sewage scheme has been prepared for the village of Broomfield. The village was for this purpose divided into two portions, each of which gravitated to a separate outfall, where it was proposed to treat the sewage by bacterial methods, with final treatment on land. Difficulties have, however, arisen with regard to the purchase of the necessary land, and that scheme has had to be abandoned. Another site has had to be selected, and a provisional agreement is being entered into for the purchase of about $17\frac{1}{2}$ acres of land which appears to be very suitable for this purpose. To this site the whole of the sewage from the sewers, as at present proposed, will gravitate to the lowest portion of the site, and after subsidence in detritus pits and subsidence tanks it will be pumped to the highest part of the site and distributed for final treatment over the land.

Sewer extensions have been made in Great Baddow, 68 yards of 9in. sewer having been laid along Baddow Road and 72 yards of 6in. sewer along The Causeway. These extensions were rendered necessary by recent building operations.

House drains receive the special attention of the Inspector, There is no doubt that in many cases where there is ample garden ground, drains are unnecessary. If provided, they should discharge into a very small cesspool which can be

frequently emptied. This is the plan recommended. The provision of large cesspools often leads to nuisances arising from neglect in emptying.

Bye-laws are in force regulating the emptying of pail closets, privies and cesspools, but they are of little, if any, advantage.

Where there are public water supplies, water closets are in general use; but elsewhere pail closets are most common. The old privies are gradually being abolished, and I shall be glad to see the last of these stinking abominations. The Inspector has caused 14 new pail closets to be erected during the year, and has had 31 old privies converted into pail closets. Pail closets are emptied by public scavengers in the populous parts of Broomfield and Little Waltham.

The pollution of the Wid by the sewage of Billericay still continues, but, doubtless on account of the wet, cold summer no complaints have been received recently.

SCAVENGING. The populous portions of Widford and Great Baddow are scavenged by persons engaged by the Council, and the refuse is tipped at places approved by me or the Inspector. Ingatestone would be the better for scavenging, but the Parish Council objects. In consequence of the increased number of houses in Broomfield the contractor now receives £37 per annum instead of £27, the payment under the previous contract.

The Chelmsford house refuse continues to be tipped in the Rural District, and has given rise to several complaints and to threats of legal proceedings. The tip was fired during the summer and accentuated the nuisance. The Borough does not take all the care necessary to prevent nuisances arising. The refuse is distributed over too large an area of ground, and is not properly covered with earth.

Our own scavengers may not use any tip unless its position, etc., has been approved by me, but the Borough can send in a vastly larger amount of refuse without our knowledge

or consent. Possibly, if the Borough Council were asked to select tips approved by your Council, they might courteously accede to the request. The present condition is a constant source of friction, and sooner or later must end in a law suit.

MILK SUPPLY. There are 117 cowsheds with dairies in the district and four milkshops. The cowsheds and dairies have received special attention for some years, and very marked improvements have been effected. We have some which are excellent in every respect, and where the cows are kept in a clean condition and every care is taken to obtain a clean milk. Unfortunately, these are the exceptions, notwithstanding our up-to-date Regulations. Some of the sheds are structurally defective—too narrow or improperly paved and drained; others are badly lighted, and in many instances there are heaps or quagmires of manure adjoining the sheds. In many instances also the dairy or cooling room opens out from the cowsheds. The water supply to the dairies is sometimes impure. These matters are continually being reported by the Inspector, but the rate of improvement is very slow. The Veterinary Inspector of the London County Council has visited cowsheds in the district on several occasions, and I have sometimes been ashamed to meet him, knowing the conditions we should find. When he has reported that any cows were tubercular we have endeavoured to see that they were no longer used for supplying milk, but we have to trust to the promise of the dairyman.

In accordance with a Notice previously given, the Rev. A. J. Sacré moved, and Mr. E. E. Forrest seconded, the following resolution (Feb. 9th, 1909):—

“That Mr. H. P. Lewis, of Chelmsford, Veterinary Surgeon, be appointed the Council's Veterinary Inspector of the cows in all dairies in the district, for one year from the 1st of April, 1909, at an inclusive salary of £50 per annum, with the object of discovering any cows which may be suffering from Tuberculosis or other

disease rendering the milk unfit for human food, and that such salary cover all out-of-pocket expenses incurred by the Inspector in making two annual inspections and such special inspections as the Medical Officer of Health may require."

The following amendment was then proposed by the Rev. E. P. Gibson:—

"That before this Council proceed to consider the proposal the Clerk be directed to write the other Rural District Councils in Essex to ascertain whether they would be willing to appoint a Veterinary Inspector, as it is suggested this Council should do, as this Council is of opinion that it is advisable that they should appoint such an Inspector, provided other District Councils will fall in with the suggestion."

Both the amendment and the original motion were lost by large majorities.

Notwithstanding this, I am able to say that the conditions in this district are better than in the great majority of Rural Districts. This may appear satisfactory to the Council, but it is not satisfactory from the public health point of view, and must ultimately lead to the control of the milk supply being taken out of the hands of local Sanitary Authorities.

FOOD SUPPLY. There are 14 slaughterhouses and 39 bakehouses in the district, and these are frequently inspected. Bye-laws are in force relating to slaughterhouses in the more populous parishes. No special effort is made to select "killing" days for inspections of slaughterhouses, and recent enquiries made shew that it would be difficult to do this, as many butchers have no fixed day. Carcases are often found hanging in the slaughterhouses, and these have always appeared quite satisfactory. I do not think any unwholesome meat is sold in the district. A little more attention to cleanliness is often desirable, and the offal is sometimes kept too long on the premises. The bakehouses, generally, are kept

clean, but two bakers have had to be seriously reprimanded about the unclean conditions allowed to prevail, and if these reprimands do not produce the desired effect they will be publicly reported to the Council.

No food of any kind has been condemned, nor has any complaint been made concerning food suspected to be unsound either to the Inspector or myself.

There are no Common Lodging Houses in the district.

There is no Offensive Trade, unless the boiling of cows feet can be considered such. A man boils such feet and sells them locally. It gives rise to no nuisance. Bye-laws are in force for the populous parishes, and their existence has probably prevented any offensive trade being established in the district. When they were adopted there was a manure works in the district which gave us much trouble.

A few pea pickers and many holiday children come into the district in summer. These are looked after as much as possible. Lists of children coming down are sent me by the Associations sending them, and all the houses in which they are boarded are visited.

SCHOOLS. Inspection of the School Children is made by the County Medical Inspectors. They also carefully note any sanitary defects, and these are reported to the Council. At two Schools the closet arrangements were so objectionable that pressure had to be brought to bear upon the School Managers to remedy them, and both undertook, finally, to make the necessary alterations during the Christmas holidays. At a third School the drainage arrangements had been satisfactorily re-modelled. In another parish the defects do not admit of being remedied, but a new School is about to be provided. The water supplies, generally, are satisfactory ; but in two or three cases it is desirable to effect improvements, but at present one cannot see how this can be done, as no better source of supply is available. Special filters and storage

vessels are being tried by the County Authority, and if found satisfactory will be adopted at all Schools where the water supply on the premises is of unsatisfactory quality or where water has to be fetched from a distance.

As I am also the County School Medical Officer, I have no difficulty in obtaining information when infectious disease is prevalent, and at such times special attention is paid to the Schools in the infected area (*Vide* section on Infectious Diseases). In each parish, also, small committees have been formed to look after the children reported by my assistant officers to require medical attention, and I think the results will be very beneficial.

GENERAL INSPECTIONS, NUISANCES, ETC. Every parish is systematically inspected once a year, and usually the Inspector is accompanied by my assistant, Dr. Richmond D.P.H. Any matter requiring special attention is then referred to me, and I make from time to time such inspection as enable me to ascertain the results of the Inspector's labours. All defects found are reported to the Sanitary Committee of the Council, which meets on the Friday preceding the monthly Council Meeting. The Committee then reports to the Council cases in which legal notices, etc., are needed. Very rarely, indeed, have legal proceedings to be taken, the legal notice or a letter or series of letters from the Clerk almost invariably sufficing to get the nuisances abated.

The Council meets each month and receives reports from (1) the Finance Committee, (2) the Sanitary Committee, (3) the Building and Works Committee, (4) from the Water Committee or other Special Committee. At an interim meeting the Report of the Road Committee is received, after which any sanitary matter of urgency is considered. There are, therefore, 26 meetings each year. The Inspector attends all meetings. I attend all the monthly meetings.

An agenda paper is issued, and the Minutes of all meetings are printed and distributed. The affairs of the Council are

conducted in a business-like manner, and on the whole the sanitary administration is excellent. Doubtless, certain matters indicated in this Report might be more efficiently dealt with, but one can scarcely hope to meet with perfection; moreover, there may be a difference of opinion as to what constitutes perfection.

In my last Report I expressed the opinion that my connection with the Council might be severed during the year, either by the requirements of the Town Planning Act or by the wish of the County Council, in consequence of the additional work put upon me by the Education and School Inspection Acts. The Town Planning Bill, however, was so amended that it no longer affected the terms of my employment, and the School works appears to have been done so satisfactorily that the County Council has not suggested any alteration in the terms of my appointment.

My 21 years' connection with the Council has been uninterrupted by any single unpleasantness, and I hope it may so continue to the end. From time to time we differ in opinion, but no personal feeling has ever entered into any discussion and no resentment ever expressed on either side. Work has always proceeded smoothly, thanks to your excellent officers, Mr. Dewhirst and Mr. Edser, and to the Chairmen of the Council and of the respective Committees.

I have the honor to be, Gentlemen,

Your obedient Servant,

JOHN C. THRESH.

TABLE I.
VITAL STATISTICS OF WHOLE DISTRICT DURING 1909 AND PREVIOUS YEARS.
CHELMSFORD RURAL DISTRICT.

| YEAR. | Population estimated to Middle of each Year. | BIRTHS. | | TOTAL DEATHS REGISTERED. | | | | | TOTAL DEATHS IN PUBLIC INSTITUTIONS. | Deaths of Non-Residents Registered in Public Institutions. | Deaths of Residents Registered in Public Institutions beyond the District. | NETT DEATHS AT ALL AGES. | |
|------------------------------|--|---------|--------|-----------------------------------|---------|--------------|--------|---------|--------------------------------------|--|--|--------------------------|--|
| | | Number. | Rate.* | Under 1 year of Age | | At all Ages. | | Number. | | | | Rate.* | |
| | | | | Rate per 1,000 Births registered. | Number. | Number. | Rate.* | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1899 | 23,650 | 544 | 23.0 | 48 | 90 | 275 | 11.6 | 9 | 9 | 26 | 292 | 12.2 | |
| 1900 | 23,700 | 505 | 21.3 | 58 | 115 | 383 | 16.1 | 12 | 9 | 13 | 394 | 16.6 | |
| 1901 | 23,800 | 513 | 22.8 | 42 | 77 | 281 | 11.8 | 9 | 1 | 35 | 315 | 13.2 | |
| 1902 | 23,850 | 549 | 23.0 | 36 | 65 | 283 | 11.9 | 10 | 7 | 34 | 310 | 13.0 | |
| 1903 | 23,920 | 581 | 24.3 | 54 | 93 | 279 | 11.6 | 10 | 8 | 45 | 316 | 13.2 | |
| 1904 | 23,920 | 554 | 22.3 | 46 | 86 | 282 | 11.8 | 2 | 2 | 34 | 314 | 13.1 | |
| 1905 | 23,950 | 544 | 22.7 | 37 | 68 | 267 | 11.1 | 2 | 2 | 21 | 286 | 12.0 | |
| 1906 | 24,050 | 559 | 23.3 | 33 | 59 | 249 | 11.4 | 13 | 10 | 39 | 278 | 11.6 | |
| 1907 | 24,100 | 550 | 22.8 | 45 | 82 | 285 | 11.8 | 12 | 9 | 67 | 343 | 14.2 | |
| 1908 | 29,650 | 494 | 23.9 | 34 | 69 | 242 | 11.7 | 3 | 3 | 48 | 287 | 13.9 | |
| Averages for years 1899-1908 | 23,539 | 540 | 22.9 | 43 | 80 | 282 | 12 | 8 | 5.3 | 36 | 313 | 13.3 | |
| 1909 | 22,360 | 471 | 21.6 | 35 | 74 | 226 | 10.1 | 3 | 2 | 41 | 265 | 11.85 | |

*Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

NOTE.—By the term “Non-residents” is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term “Residents” is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

Area of District in acres (exclusive of area covered by water), 82,772. Total population at all ages, 20,309
Number of Inhabited Houses, 4,817
Average number of persons per house, 4.2 } At Census of 1901

| I. Institutions within the District receiving sick and infirm persons from outside the District. | II. Institutions outside the District receiving sick and infirm persons from the District. | III. Other Institutions, the deaths in which have been distributed among the several localities in the District. |
|---|---|---|
| Billericay Isolation Hospital. | Workhouse. Chelmsford Infirmary. | |

Is the Union Workhouse within the District? No.

TABLE II. VITAL STATISTICS OF SEPARATE LOCALITIES IN 1909 AND PREVIOUS YEARS.
CHELMSFORD RURAL DISTRICT.

| NAMES OF LOCALITIES | GREAT WALTHAM. | | | | | | CHELMSFORD. | | | | | | GREAT BADDOW. | | | | | | INGATESTONE. | | | | | |
|-----------------------------------|--|-------------------------|------------------------|------------------------|--|-------------------------|------------------------|-------------------------|--|-------------------------|------------------------|-------------------------|--|-------------------------|------------------------|-------------------------|--|-------------------------|------------------------|-------------------------|--|-------------------------|------------------------|-------------------------|
| | Population esti- mated to middle of each Year. | Births regis- tered. | Deaths at all Ages. | Deaths under 1 year | Population esti- mated to middle of each year. | Births regis- tered. | Deaths at all ages. | Deaths under 1 year. | Population esti- mated to middle of each year. | Births regis- tered. | Deaths at all ages. | Deaths under 1 year. | Population esti- mated to middle of each year. | Births regis- tered. | Deaths at all Ages. | Deaths under 1 year. | Population esti- mated to middle of each year. | Births regis- tered. | Deaths at all Ages. | Deaths under 1 year. | Population esti- mated to middle of each year. | Births regis- tered. | Deaths at all Ages. | Deaths under 1 year. |
| Year. | a. | b. | c. | d. | a. | b. | c. | d. | a. | b. | c. | d. | a. | b. | c. | d. | a. | b. | c. | d. | a. | b. | c. | d. |
| 1899 | 5133 | 150 | 89 | 15 | 3666 | 93 | 55 | 8 | 6996 | 170 | 88 | 16 | 6175 | 143 | 80 | 19 | 6175 | 143 | 80 | 19 | 6175 | 143 | 80 | 19 |
| 1900 | 6415 | 139 | 96 | 12 | 3705 | 92 | 73 | 9 | 7196 | 123 | 129 | 18 | 6240 | 131 | 60 | 9 | 6240 | 131 | 60 | 9 | 6240 | 131 | 60 | 9 |
| 1901 | 6415 | 147 | 78 | 10 | 3760 | 92 | 43 | 8 | 7385 | 169 | 103 | 14 | 6240 | 151 | 96 | 19 | 6240 | 151 | 96 | 19 | 6240 | 151 | 96 | 19 |
| 1902 | 6415 | 136 | 88 | 5 | 3770 | 102 | 55 | 10 | 7420 | 167 | 96 | 16 | 6240 | 135 | 91 | 10 | 6240 | 135 | 91 | 10 | 6240 | 135 | 91 | 10 |
| 1903 | 6420 | 165 | 79 | 14 | 3780 | 96 | 54 | 12 | 7450 | 164 | 106 | 14 | 6240 | 144 | 71 | 5 | 6240 | 144 | 71 | 5 | 6240 | 144 | 71 | 5 |
| 1904 | 6450 | 122 | 93 | 15 | 3780 | 100 | 54 | 11 | 7450 | 160 | 91 | 6 | 6240 | 152 | 78 | 14 | 6240 | 152 | 78 | 14 | 6240 | 152 | 78 | 14 |
| 1905 | 6450 | 153 | 92 | 11 | 3780 | 90 | 60 | 14 | 7480 | 164 | 74 | 6 | 6240 | 137 | 61 | 6 | 6240 | 137 | 61 | 6 | 6240 | 137 | 61 | 6 |
| 1906 | 6500 | 129 | 84 | 8 | 3790 | 108 | 48 | 5 | 7510 | 173 | 89 | 10 | 6250 | 149 | 57 | 10 | 6250 | 149 | 57 | 10 | 6250 | 149 | 57 | 10 |
| 1907 | 6520 | 136 | 105 | 11 | 3790 | 95 | 52 | 11 | 7530 | 169 | 90 | 9 | 6260 | 150 | 96 | 14 | 6260 | 150 | 96 | 14 | 6260 | 150 | 96 | 14 |
| 1908 | 6600 | 140 | 98 | 13 | 3500 | 79 | 44 | 3 | 4250 | 115 | 62 | 6 | 6300 | 160 | 83 | 12 | 6300 | 160 | 83 | 12 | 6300 | 160 | 83 | 12 |
| Averages of Years 1899-1908 | 6332 | 140 | 90 | 11.4 | 3732 | 94.7 | 54 | 9.1 | 7065 | 157 | 92 | 11.5 | 6247 | 145 | 77 | 11.8 | 6247 | 145 | 77 | 11.8 | 6247 | 145 | 77 | 11.8 |
| 1909 | 7029 | 150 | 76 | 6 | 3491 | 74 | 39 | 7 | 4933 | 96 | 66 | 12 | 6910 | 151 | 84 | 10 | 6910 | 151 | 84 | 10 | 6910 | 151 | 84 | 10 |

TABLE III.
CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR, 1909.
CHEMSFORD RURAL DISTRICT COUNCIL.

| NOTIFIABLE DISEASE. | CASES NOTIFIED IN WHOLE DISTRICT. | | | | | | TOTAL CASES NOTIFIED IN EACH LOCALITY. | | | | No. OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY. | | | | Total cases removed to Hospital. | |
|---|-----------------------------------|----------------|--------|---------|----------|----------|--|----|----|----|--|-------------|---------------|-------------|----------------------------------|----------------|
| | At all Ages | At Ages—Years. | | | | | 1 | 2 | 3 | 4 | Great Waltham. | Chelmsford. | Great Baddow. | Ingtestone. | | |
| | | Under 1 | 1 to 5 | 5 to 15 | 15 to 25 | 25 to 65 | | | | | | | | | | 65 and upwards |
| Small-pox .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cholera .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Diphtheria (including Membranous Croup) | 7 | .. | 4 | 2 | 1 | 1 | .. | 1 | 2 | 4 | 1 | .. | 1 | .. | .. | 3 |
| Erysipelas .. | 3 | .. | 31 | 1 | 2 | 1 | .. | 1 | 1 | 17 | 7 | .. | 11 | .. | 5 | 27 |
| Scarlet Fever .. | 36 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Typhus Fever .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Enteric Fever .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Relapsing Fever .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. |
| Continued Fever .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Puerperal Fever .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Plague .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Totals .. | 47 | .. | 3 | 35 | 4 | 4 | 1 | 12 | 5 | 22 | 8 | 11 | 2 | 12 | 5 | 30 |

Isolation Hospital, Chelmsford Joint Hospital, Great Baddow. Total available beds, 21. Number of Diseases that can be con-
currently treated, 2. Also Small-Pox Hospital at Galleywood for 6 beds, can be used for other cases.

TABLE IV.

CHELMSFORD RURAL DISTRICT.—CAUSES OF, AND AGES AT, DEATH DURING YEAR 1909.

| CAUSES OF DEATH. | DEATHS IN WHOLE DISTRICT AT SUBJOINED AGES. | | | | | DEATHS IN LOCALITIES (AT ALL AGES). | | | | DEATHS IN PUBLIC INSTITUTIONS. | | |
|---|---|----------|----------------|-----------------|------------------|-------------------------------------|-----------------|-----------------|-------------|--------------------------------|----------------|--------------|
| | All ages. | Under 1. | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 65. | 65 and upwards. | (Great Waltham. | Chelmsford. | | (Great Baddow. | Ingatestone. |
| | | | | | | | | | | | | |
| Small-pox .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Measles .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scarlet Fever .. | 2 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. |
| Whooping Cough .. | 1 | .. | 1 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. |
| Diphtheria (including Membranous Croup) | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Croup .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Fever { Typhus | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| { Enteric .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| { Other continued .. | 9 | .. | .. | .. | .. | 7 | 2 | 1 | 1 | .. | 7 | .. |
| Epidemic Influenza .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cholera .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Plague .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. |
| Diarrhoea .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Enteritis .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Gastritis .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Puerperal Fever .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Erysipelas .. | 21 | 1 | 2 | 1 | 5 | 12 | .. | 5 | 2 | 8 | 6 | .. |
| Phthisis (Pulmonary Tuberculosis) | 5 | 1 | 2 | .. | 1 | 1 | .. | 3 | 1 | 1 | 1 | .. |
| Other Tuberculous Diseases .. | 23 | .. | .. | .. | .. | 13 | 10 | 10 | 1 | 6 | 8 | .. |
| Cancer, Malignant Disease .. | 29 | 3 | 1 | .. | .. | 2 | 23 | 11 | 7 | 3 | 3 | .. |
| Bronchitis .. | 6 | 2 | .. | .. | .. | 1 | 3 | .. | .. | .. | .. | .. |
| Pneumonia .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Pleurisy .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Other Diseases of Respiratory Organs | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Alcoholism .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cirrhosis of Liver .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Veneral Diseases .. | 6 | 6 | .. | .. | .. | .. | .. | 1 | 2 | 2 | 1 | .. |
| Premature Birth .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Diseases and Accidents of Parturition | 30 | 1 | .. | 1 | .. | 10 | 18 | 6 | 6 | 9 | 9 | .. |
| Heart Diseases .. | 5 | .. | .. | .. | .. | 3 | 2 | .. | 1 | 1 | 3 | .. |
| Accidents .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. |
| Suicides .. | 3 | 2 | .. | .. | .. | .. | .. | 2 | .. | 1 | .. | .. |
| Other Septic Diseases .. | 122 | 16 | 2 | 3 | 1 | 18 | 82 | 36 | 18 | 30 | 38 | .. |
| All other causes .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| All causes .. | 265 | 35 | 7 | 6 | 7 | 68 | 142 | 76 | 39 | 66 | 86 | 3 |

TABLE V.
CHELMSFORD RURAL DISTRICT.—INFANTILE MORTALITY DURING THE YEAR 1909.
Deaths from stated Causes in Weeks and Months under one Year of Age.

| Cause of Death. | Under 1 Week | 1-2 Weeks. | 2-3 Weeks. | 3-4 Weeks. | Total under 1 Month. | 1-2 Months. | 2-3 Months. | 3-4 Months. | 4-5 Months. | 5-6 Months. | 6-7 Months. | 7-8 Months. | 8-9 Months. | 9-10 Months. | 10-11 Months. | 11-12 Months. | Total Deaths under One Year. |
|--|--------------|------------|------------|------------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|---------------|---------------|------------------------------|
| Common Infectious Diseases. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Small-pox ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Chicken-pox ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Measles ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Scarlet Fever ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Diphtheria (in Membranous Croup) | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Whooping Cough ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | 2 |
| Diarrhoea, all forms ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Enteritis, Muco and Gastro... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Gastritis, Gastro-intestinal Catarrh | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Premature Birth ... | 5 | ... | 2 | 2 | 9 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 9 |
| Congenital Defects ... | 2 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| Injury at Birth ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Want of Breast-milk, Starvation | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Atrophy, Debility, Marasmus | 3 | 1 | ... | ... | 4 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 6 |
| Tuberculous Meningitis ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Tuberculous Peritonitis: Tabes Mesenterica } | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Other Tuberculous Diseases | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 2 |
| Erysipelas ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Syphilis ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Rickets ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Meningitis (not Tuberculous) | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Convulsions ... | 2 | ... | ... | ... | 2 | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | 1 | 4 |
| Bronchitis ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 3 |
| Laryngitis ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Pneumonia ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 2 |
| Suffocation, overlying ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Other Causes ... | 2 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| | 15 | 1 | 2 | 3 | 21 | 2 | 2 | ... | ... | 3 | 1 | 1 | 1 | 1 | ... | 3 | 35 |

District of Chelmsford Rural.
Births in the Year, 471.

Population (estimated to middle of 1909), 22,363
Deaths from all Causes at all Ages, 265.

TABLE VII.
 FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES,
 AND HOMEWORK.

1.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

| Premises. | Number of | | |
|--|-------------|------------------|--------------|
| | Inspections | Written Notices. | Prosecutions |
| Factories ... (Including Factory Laundries) ... | — | — | — |
| Workshops ... (Including Workshop Laundries) } Workplaces | 198 | 3 | Nil |
| Total. | 198 | 3 | Nil |

2.—DEFECTS FOUND.

| Particulars. | Number of Defects. | | | Number of Prosecutions |
|--|--------------------|----------|----------------------------|------------------------|
| | Found | Remedied | Referred to H.M. Inspector | |
| <i>Nuisances under the Public Health Acts—</i> | | | | |
| Want of cleanliness ... | — | — | — | Nil |
| Want of ventilation .. | — | — | — | Nil |
| Overcrowding ... | — | — | — | Nil |
| Want of drainage of floors ... | — | — | — | Nil |
| Other nuisances ... | — | — | — | Nil |
| Sanitary accommodation { insufficient .. | — | — | — | Nil |
| { unsuitable or defective | — | — | — | Nil |
| { not separate for sexes | — | — | — | Nil |
| <i>Offences under the Factory & Workshop Act.</i> | | | | |
| Illegal occupation of underground bake-house ... | — | — | — | Nil |
| Breach of special sanitary requirements for bakehouses ... | 3 | 3 | — | Nil |
| Other Offences ... | — | — | — | Nil |
| Total... .. | 3 | 3 | — | Nil |

TABLE VII.—*continued.*

FACTORIES, WORKSHOPS, LAUNDRIES, ETC.

3.—REGISTERED WORKSHOPS.

| Workshops on the Register (s. 131) at the end of the year. | Number |
|--|--------|
| Bakers Shops | 39 |
| Carpenters Shops | 30 |
| Blacksmiths Shops | 36 |
| Boot Repairing Shops | 21 |
| Tailoring Shops | 0 |
| Harness Making and Repairing Shops | 6 |
| Laundries | 7 |
| Dressmaking Shops... . | 6 |
| Cycle Repairing Shops | 6 |
| Wheelwrights Shops | 29 |
| Painters and Plumbers Shops | 18 |
| Total number of Workshops on Register | 198 |

4.—OTHER MATTERS.

| Class. | Number |
|--|--|
| Matters notified to H.M. Inspector of Factories :— | |
| Failure to affix Abstract of Factory and Workshop Act (s. 133) | Nil |
| Action taken in matters referred by H.M. Inspector as remediable under Public Health Acts, but not under the Factory and Workshop Act (s. 5) | Notified by H.M. Inspector Reports (of action taken) sent to H.M. Inspector |
| Other | Nil |
| Underground Bakehouses (s. 101) :— | |
| Certificates granted during the year | Nil |
| In use at the end of the year | Nil |

JOHN C. THRESH, M.D.

TABLE VIII.

SUMMARY OF WORK done through the Sanitary Inspector in the Rural Sanitary District of Chelmsford during the year ending December 31st, 1909.

| | Total Number for year. | Notes, Results of Inspection, &c. |
|---|------------------------------|--|
| 1. Complaints received ... | 17 | |
| 2. Nuisances detected without complaint | 298 | |
| 3. Nuisances abated | 278 | 37 outstanding. |
| 4. Notices served | 269 | For 315 nuisances. |
| 5. Summonses taken out | 1 | |
| 6. Convictions | 1 | |
| 7. Cottages inspected | 1272 | |
| 8. Lodging-houses inspected ... | Nil | |
| 9. Slaughter-houses inspected... | 12 | |
| 10. Bakehouses inspected | 36 | |
| 11. Dairies and Milkshops inspected | 107 | |
| 12. Cowsheds inspected | 107 | |
| 13. Workshops inspected | 86 | Including Bakehouses. |
| 14. Filthy houses cleansed, sec. 46 Public Health Act, 1875 | 2 | |
| 15. Houses disinfected | 48 | |
| 16. Overcrowding abated | 5 | |
| 17. Houses placed in habitable repair | 9 | |
| 18. Houses closed... .. | 1 | Buttsbury. |
| 19. Houses erected or re-built for which Water "Certifi- cates" were applied | 48 | |
| 20. "Certificates" granted | 25 | For 38 houses. |
| 21. " " deferred | 10 | |
| 22. Wells sunk or improved supplies of Water afforded ... | ... | Surveyor's department. |
| 23. Wells cleansed or repaired ... | ... | do. |
| 24. Wells closed | ... | do. |
| 25. Houses connected with sewers | ... | do. |
| 26. Houses connected with water mains | ... | do. |
| 27. Earth, pail, or improved Privies constructed or existing Privies altered | 45 | 31 Privies altered into pail closets, and 14 new closets constructed. |
| 28. Privies and W.C.'s repaired | 99 | |
| 29. Cisterns cleansed, repaired, or covered | Nil | |
| 30. Animals improperly kept removed | 1 | |
| 31. Samples of water taken for Analysis | 33 | |
| 32. Compensation paid for destruction of infected bedding | 30/- | 22 for cowsheds and other pur- poses. |
| 33. Seizures of unsound Meat, &c. | Nil | |

WILLIAM EDSER,
Sanitary Inspector.

